

REMARKS

In the Office Action, claim 16 is objected to because of informalities.

In the Office Action, claims 13, 15-18, and 20-47 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,750,926 to Schulman et al. in view of U.S. Patent No. 5,113,868 to Wise et al.

In response thereto, claims 13, 15, 16, 22-25, 31, and 34 have been amended and new claims 48-50 have been added. Accordingly, claims 13, 15-18, and 20-50 are now pending. Following is a discussion of the patentability of each of the pending claims.

Preliminary Matter

In response to the objection of claim 16 because of informalities, in line 3, the second occurrence of "pressure" has been deleted as suggested in the Office Action. Accordingly, it is respectfully requested that the objection to claim 16 be withdrawn.

Independent Claim 13

Claim 13 recites a pressure sensor device implantable in a living body. The pressure sensor device comprises an insulating substrate, a pressure sensor directly mounted on the insulating substrate, and a thin film of hermetic material encapsulating both the pressure sensor and the insulating substrate. The insulating substrate has a first outer surface and a second outer surface, and the first outer surface of the insulating substrate opposes the second outer surface of the insulating substrate. The pressure sensor has a first outer surface and a second outer surface, and the first outer surface of the pressure sensor opposes the second outer surface of the pressure sensor. The pressure sensor is directly mounted on the insulating substrate such that the first outer surface of the pressure sensor is in contact with the second outer surface of the insulating substrate. The thin film of hermetic material encapsulates both the second outer surface of the pressure sensor and the first outer surface of the insulating substrate. An inner surface of the thin film directly contacts the second outer surface of

the pressure sensor and the first outer surface of the insulating substrate to form a voidless encapsulation of the pressure sensor and the insulating substrate.

The Schulman et al. reference does not disclose or suggest a thin film of hermetic material encapsulating both a second outer surface of a pressure sensor and a first outer surface of an insulating substrate, wherein the pressure sensor is directly mounted on the insulating substrate such that a first outer surface of the pressure sensor is in contact with a second outer surface of the insulating substrate, and wherein an inner surface of the thin film directly contacts the second outer surface of the pressure sensor and the first outer surface of the insulating substrate to form a voidless encapsulation of the pressure sensor and the insulating substrate. In the various embodiments disclosed in the Schulman et al. reference, a layer of insulating material (26, 110, and 120) is limited to encapsulating an outer surface of an insulating substrate (22 and 100). The layer of insulating material does not further encapsulate an outer surface of the pressure sensor because a discrete rigid metal lid (82) is implemented to hermetically seal the pressure sensor.

The Wise et al. reference is directed to a capacitive pressure sensor mounted on a catheter. In the embodiment illustrated in Figure 1, the capacitive pressure sensor comprises a support substrate (32) and a transducer chip (34) mounted on the support substrate. The transducer chip has a diaphragm (130), and the diaphragm may have an encapsulating material upon it, provided that the thickness of the layer of material is controlled so as to be at least about an order of magnitude more flexible than the diaphragm.

The Wise et al. reference does not disclose or suggest a thin film of hermetic material encapsulating both a second outer surface of a pressure sensor and a first outer surface of an insulating substrate, wherein the pressure sensor is directly mounted on the insulating substrate such that a first outer surface of the pressure sensor is in contact with a second outer surface of the insulating substrate, and wherein an inner surface of the thin film directly contacts the second outer surface of the pressure sensor and the first outer surface of the insulating substrate to form a

voidless encapsulation of the pressure sensor and the insulating substrate. The Wise et al. reference discloses encapsulating only the diaphragm with an encapsulating material. Nowhere does the Wise et al. reference disclose or suggest an encapsulating material encapsulating both the capacitive pressure sensor and the support substrate.

Accordingly, it is respectfully submitted that claim 13 is in condition for allowance.

Dependent Claims 15-18, 20, 21, 39-41, and 48

Claims 15-18, 20, 21, 39-41, and 48 depend from claim 13 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 22

For at least some of the reasons discussed above with regards to claim 13, it is respectfully submitted that claim 22 is in condition for allowance.

Dependent Claims 23-30, 42-44, and 49

Claims 23-30, 42-44, and 49 depend from claim 22 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 31

For at least the same reasons discussed above with regards to claim 22, it is respectfully submitted that claim 31 is in condition for allowance.

Dependent Claims 32-38, 45-47, and 50

Claims 32-38, 45-47, and 50 depend from claim 31 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

CONCLUSION

In light of the above claim amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

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